REMARKS

Based on the amendments and remarks that follow, reconsideration of this application is respectfully requested.

1. **Rejections under 35 U.S.C. § 112**

In the office action, claims 1-27 were rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. This rejection is respectfully traversed.

However, claims 1, 13, 19, and 27 have been amended to further clarify the invention, not for reasons of patentability, and Applicant submits that these amendments overcome the 35 U.S.C. § 112 rejections.

2. **Rejections under 35 U.S.C. § 103(a)**

Claims 1-11, 13-25, and 27 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kirsch (U.S. Patent No. 6,070,158) and Pratt (U.S. Patent No. 6,772,141). In addition, claims 12 and 26 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kirsch and Pratt in view of Olstad (U.S. Patent Application No. 2002/0032772). Applicants respectfully traverse these rejections.

Claims 1, 13, 19, and 27 have been currently amended. In light of the above claim amendments and the following remarks, Applicants respectfully submit that the present claims are distinct, and therefore, patentable over the cited art.

Claims 1–11, **13–25, and 27** stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Kirsch and Pratt.

Claim 1

Claim 1 has been amended to recite:

> a **frequent word index** that maps the location of documents that contain words that occur in more than the threshold number of documents;
> an **infrequent word index, maintained separately from the frequent word index**, that maps the location of documents that contain the infrequent words; and
> an index scanning component that, in response to a query containing an infrequent word, **scans the infrequent word index to find the location of documents containing the infrequent word.**
> (Emphasis added)

The Office Action states that Kirsch teaches "a frequent word index that maps the location of documents that contain words that occur in more than the threshold number of documents" at col 10, lines 30–35, lines 40–45. Kirsch in lines 30–35 discusses creating a stop list with words that exceed a threshold in frequency of occurrence. The words in this stop list are then ignored. Kirsch does not indicate that

the stop list is an index that maps the location of documents that contain words that occur in more than the threshold of documents. In lines 40-45, Kirsch describes that words that pass the filter (referring to the stop list) are then added to a document record, which stores a document ID, the number of occurrences of each term, and a word count of the document. Kirsch does not teach "a frequent word index that maps the location of documents that contain words that occur in more than the threshold number of documents."

The Office Action also states that Kirsch teaches "an infrequent word index, maintained separately from the frequent word index" in col. 2, lines 45-54 and col. 6, lines 64-67. In col. 2 lines 45-54, Kirsch discusses the addition of proximity information, by adding location of occurrence information with each document identifier for each of the indexed terms. The proximity information provides a revised relevancy ranking based on whether and to what degree query terms are grouped in close proximity to each other in the document. (col. 2, lines 54-65). Kirsch does not teach having "an infrequent word index, maintained separately from the frequent word index." In column 6, lines 64-67, Kirsch talks about having an incremental index 30, which is updated from documents obtained through dynamic updates. Index 38 is the main index, while index 34 is a secondary index, which he describes as a staging index for document records that are ultimately transferred to the main index, a substantial peer to the main index, or as an index similar to the main index but used for separate

document categories. (See Kirsch, col. 7, lines 37–43.) Kirsch does not teach

maintaining an infrequent word list.

Pratt does not remedy this failure. Neither Kirsch nor Pratt, either alone or in

combination, teach "an infrequent word index, maintained separately from the frequent

word index, that maps the location of documents that contain the infrequent words."

For at least this reason, claim1 is allowable over the cited references.

Claims 2–12

Claims 2–12 depend from claim 1 and are allowable at least by virtue of that

dependency. Accordingly, the rejection of these claims should also be withdrawn.

Claim 13

Claim 13 as amended recites:

scanning the set of documents and gathering infrequent words
that occur fewer times than a threshold number in the set of documents;
constructing an infrequent word index that maps the infrequent
words to locations of documents that contain the infrequent words;
constructing a frequent word index, separately maintained from
the infrequent word index, that maps frequent word that occur in a
number of documents of the set of documents that is greater than the
threshold amount to locations of documents that contain the frequent
words;
examining the terms in the user query to identify infrequent
words; and

searching the **infrequent word index for the** identified infrequent
word
(emphasis added)

Claim 13 recites the limitation of "scanning the set of documents and gathering

infrequent words." The Office Action cites Kirsch col. 2, lines 25–32 and 47–53. In col.

2, lines 25–32, Kirsch describes a minimum index format as a way to keep index sizes

small. All documents with at least one occurrence of the query term are identified, and a

relevancy score can be generated based on the combined frequency of occurrence for

each of the query terms on a per document basis. In col. 2, lines 47–53, Kirsch

describes proximity information which, as described above in arguments for claim 1,

allows relevancy scoring to be based on groupings of words within documents. Kirsch

does not teach gathering infrequent words from the set of documents. Pratt does not

remedy this failure.

Additionally, claim 13 has similar limitations to those argued above for claim 1,

therefore similar arguments would apply to claim 13.

Accordingly, for at least these reasons, claim 13 is allowable over the cited

references.

Claims 14–18

Claims 14–18 depend from claim 13 and are allowable at least by virtue of that

dependency. Accordingly, the rejection of these claims should also be withdrawn.

Claims 19 and 27

Claim 19 as amended recites:

>mapping, in a **frequent word index**, the location of documents that contain frequent words that occur in more than the threshold number of documents;
>maintaining, **separately from the frequent word index, an infrequent word index** that maps the location of documents that contain the infrequent words; and
>in response to a query containing an infrequent word, **scanning the infrequent word index to find the location of documents containing the infrequent word.**
>(emphasis added)

Claim 27 is amended to recite:

>means for constructing an **infrequent word index** that maps the infrequent words to locations of documents that contain the infrequent word;
>means for constructing **a frequent word index, separately maintained from the infrequent word index**, that maps frequent words that occur in a number of documents that is greater than the threshold amount to location of documents that contain the frequent word;
>means for examining the terms in the user query to identify infrequent words; and
>means for **searching the infrequent word index for the identified infrequent words.**

As may be seen by these excerpts, claims 19 and 27 have similar limitations to

claims 1 and 13, and the arguments made for claims 1 and 13 above apply to each of

these claims.

Accordingly, for at least these reasons, claims 19 and 27 are allowable over the

cited references.

Claims 20–26

Claims 20–26 depend from claim 19 and are allowable at least by virtue of that dependency. Accordingly, the rejection of these claims should also be withdrawn.

Claim 8

Claim 8 recites "The system of claim 1 wherein the infrequent word index is stored by word."

In addition to being allowable because of its dependency on claim 1, claim 8 is not taught by Kirsch. In the passage cited in the Office Action (col. 10, lines 20–26), Kirsch discusses adding terms that do not or are unlikely to carry contextual significance to a word stop list. Kirsch also explains in that paragraph that a word stop list is made up of words that occur too frequently to be useful. An infrequent word index stored by word is not the same as a word stop list made up of frequently used or contextually insignificant words. Kirsch does not teach or suggest an infrequent word index stored by word.

For at least this reason, in addition to the dependency from claim 1, claim 8 is allowable over the cited references.

Claim 9

Claim 9 recites "The system of claim 1 wherein the infrequent word index is partitioned by word."

The same argument as was used for claim 8 applies; Kirsch does not teach "infrequent word index is partitioned by word." For at least this reason, in addition to the dependency from claim 1, claim 9 is allowable over the cited references.

Claim 11

Claim 11 recites "in response to a **user query containing an infrequent word, retrieves** document **locations for documents having the infrequent word** from the **infrequent word index** and **transmits the retrieved document locations** to computer **systems** containing **frequent word indexes** for the retrieved documents. (emphasis added).

In the passage cited in the Office Action (col. 5, lines 19-27), Kirsch discusses a web search site which allows content-based searches against document indexes. He states that the search site may encompass any number of logical and physical computer systems. But Kirsch does not disclose or teach transmitting document locations retrieved from an infrequent word index to computer system containing frequent word indexes.

For at least this reason, in addition to its dependency from claim 1, claim 11 is allowable over the cited art.

3.   Conclusion

In view of the above, it is submitted that the claims are patentably distinct over the cited art and that all the rejections to the claims have been overcome and notice to that effect is earnestly solicited. Reconsideration and reexamination of the present application is requested. If the Examiner has any questions regarding this matter, the Examiner is requested to telephone Applicants' attorney at the numbers listed below prior to issuing a further Office Action.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check please charge any deficiency to Deposit Account No. 50-0463.

Respectfully submitted,
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March 14, 2008   /Noemi Tovar/
Date   Noemi Tovar

16   Type of Response: Amendment
                        Application Number: 10/761,160
                        Attorney Docket Number: 305335.01
                        Filing Date: 01-20-2004